# 6EA8

## Medium-Mu Triode—
## Sharp-Cutoff Pentode

**9-PIN MINIATURE TYPE**
**With Heater Having Controlled Warm-Up Time**

**GENERAL DATA**

**Electrical:**

| | | |
|---|---|---|
| Heater, for Unipotential Cathodes: | | |
| Voltage (AC or DC) | 6.3 | volts |
| Current | 0.45 ± 6% | amp |
| Warm-up time (Average) | 11 | sec |

Direct Interelectrode Capacitances:

| | *Without External Shield* | *With External Shield*[a] | |
|---|---|---|---|
| *Triode Unit:* | | | |
| Grid to plate | 1.7 | 1.7 | μμf |
| Grid to cathode, pentode cathode & pentode grid No.3 & internal shield, and heater | 3 | 3.2 | μμf |
| Plate to cathode, pentode cathode & pentode grid No.3 & internal shield, and heater | 1.4 | 1.9 | μμf |
| *Pentode Unit:* | | | |
| Grid No.1 to plate | 0.02 max. | 0.01 max. | μμf |
| Grid No.1 to cathode & grid No.3 & internal shield, grid-No.2, and heater | 5 | 5 | μμf |
| Plate to cathode & grid No.3 & internal shield, grid No.2, and heater | 2.6 | 3.4 | μμf |
| Heater to cathode (Each unit) | 3 | 3[b] | μμf |

**Characteristics, Class $A_1$ Amplifier:**

| | *Triode Unit* | *Pentode Unit* | |
|---|---|---|---|
| Plate-Supply Voltage | 150 | 125 | volts |
| Grid-No.2 Voltage | – | 125 | volts |
| Grid-No.1 Voltage | – | -1 | volt |
| Cathode Resistor | 56 | – | ohms |
| Amplification Factor | 40 | – | |
| Plate Resistance (Approx.) | 5000 | 200000 | ohms |
| Transconductance | 8500 | 6400 | μmhos |
| Plate Current | 18 | 12 | ma |
| Grid-No.2 Current | – | 4 | ma |
| Grid-No.1 Voltage (Approx.) for plate μa = 10 | -12 | -9 | volts |

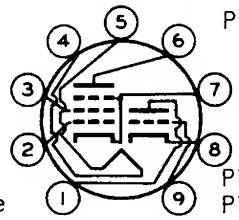
← Indicates a change.

# 6EA8

**Mechanical:**

| | |
|---|---|
| Operating Position | Any |
| Maximum Overall Length | 2-3/16" |
| Maximum Seated Length | 1-15/16" |
| Length, Base Seat to Bulb Top (Excluding tip) | 1-9/16" ± 3/32" |
| Diameter | 0.750" to 0.875" |
| Dimensional Outline | See *General Section* |
| Bulb | T6-1/2 |
| Base | Small-Button Noval 9-Pin (JEDEC No.E9-1) |
| Basing Designation for BOTTOM VIEW | 9AE |

Pin 1 – Triode Plate
Pin 2 – Pentode Grid No.1
Pin 3 – Pentode Grid No.2
Pin 4 – Heater
Pin 5 – Heater
Pin 6 – Pentode Plate
Pin 7 – Pentode Cathode, Pentode Grid No.3, Internal Shield
Pin 8 – Triode Cathode
Pin 9 – Triode Grid




## AMPLIFIER — Class $A_1$

**Maximum Ratings,** *Design-Maximum Values:*

| | *Triode Unit* | *Pentode Unit* | |
|---|---|---|---|
| PLATE VOLTAGE | 330 max. | 330 max. | volts |
| GRID-No.2 (SCREEN-GRID) SUPPLY VOLTAGE | – | 330 max. | volts |
| GRID-No.2 VOLTAGE | – | See *Grid-No.2 Input Rating Chart* at front of Receiving Tube Section | |
| GRID-No.1 (CONTROL-GRID) VOLTAGE: Positive-bias value | 0 max. | 0 max. | volts |
| GRID-No.2 INPUT: For grid-No.2 voltages up to 165 volts | – | 0.55 max. | watt |
| For grid-No.2 voltages between 165 and 330 volts | – | See *Grid-No.2 Input Rating Chart* at front of Receiving Tube Section | |
| → PLATE DISSIPATION | 2.5 max. | 3.1 max. | watts |
| PEAK HEATER-CATHODE VOLTAGE: Heater negative with respect to cathode | 200 max. | 200 max. | volts |
| Heater positive with respect to cathode | 200[c] max. | 200[c] max. | volts |

[a] With external shield JEDEC No.315 connected to cathode of unit under test except as noted.
[b] With external shield JEDEC No.315 connected to ground.
[c] The dc component must not exceed 100 volts.

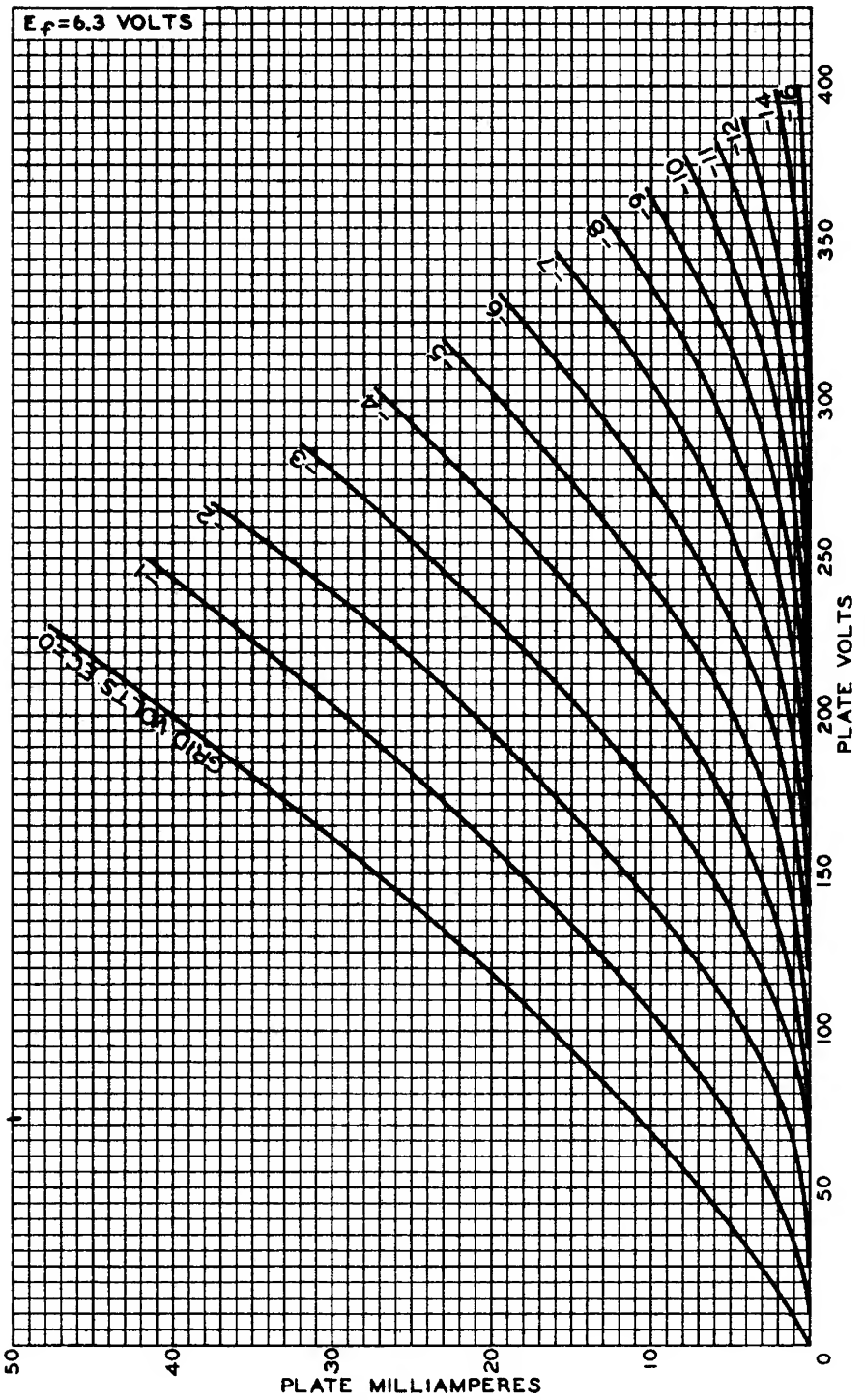
→ Indicates a change.

6EA8

# 6EA8

## AVERAGE PLATE CHARACTERISTICS

### TRIODE UNIT





ELECTRON TUBE DIVISION
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

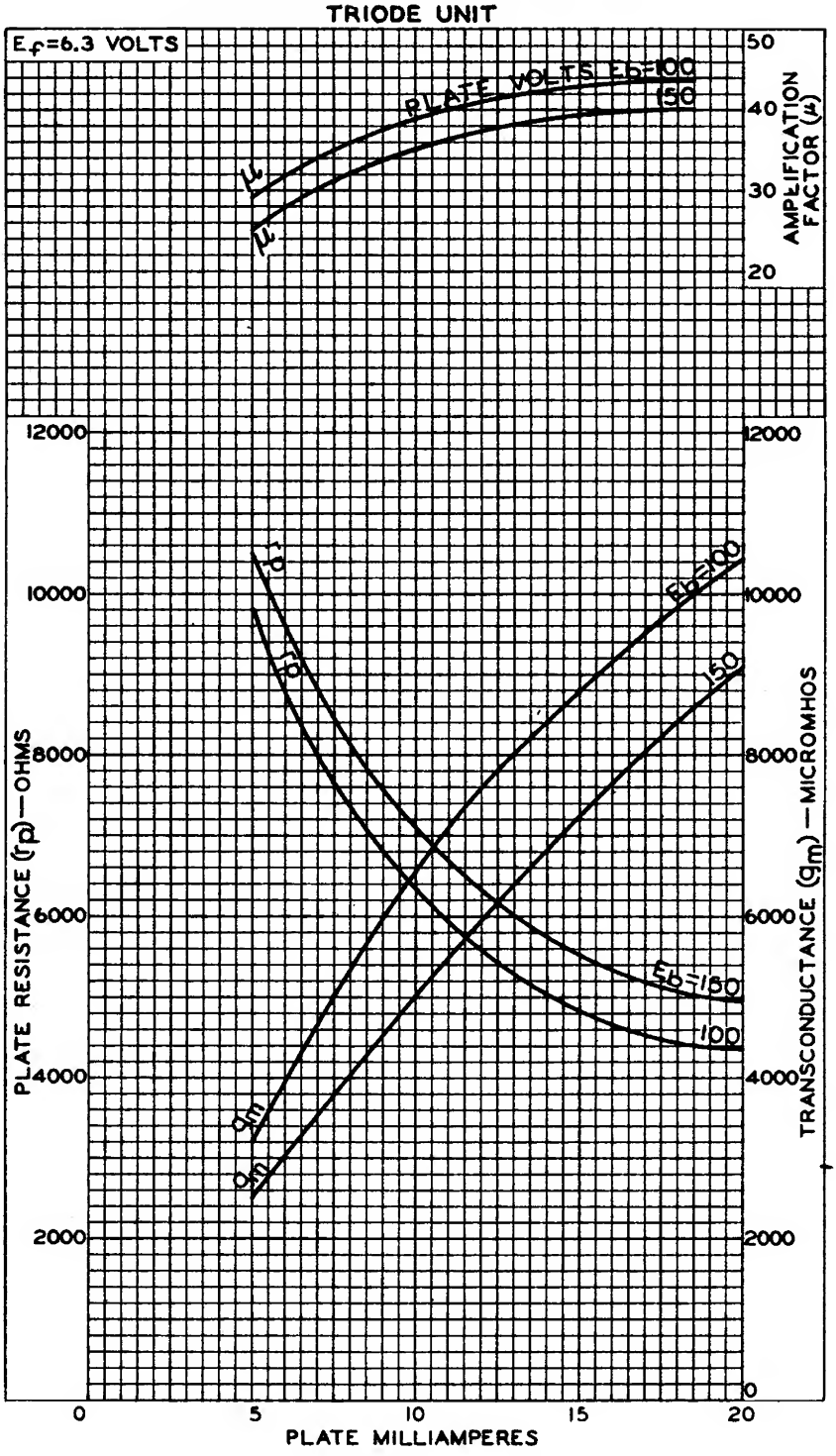
92CM-9866

6EA8

# 6EA8

## AVERAGE CHARACTERISTICS

### TRIODE UNIT

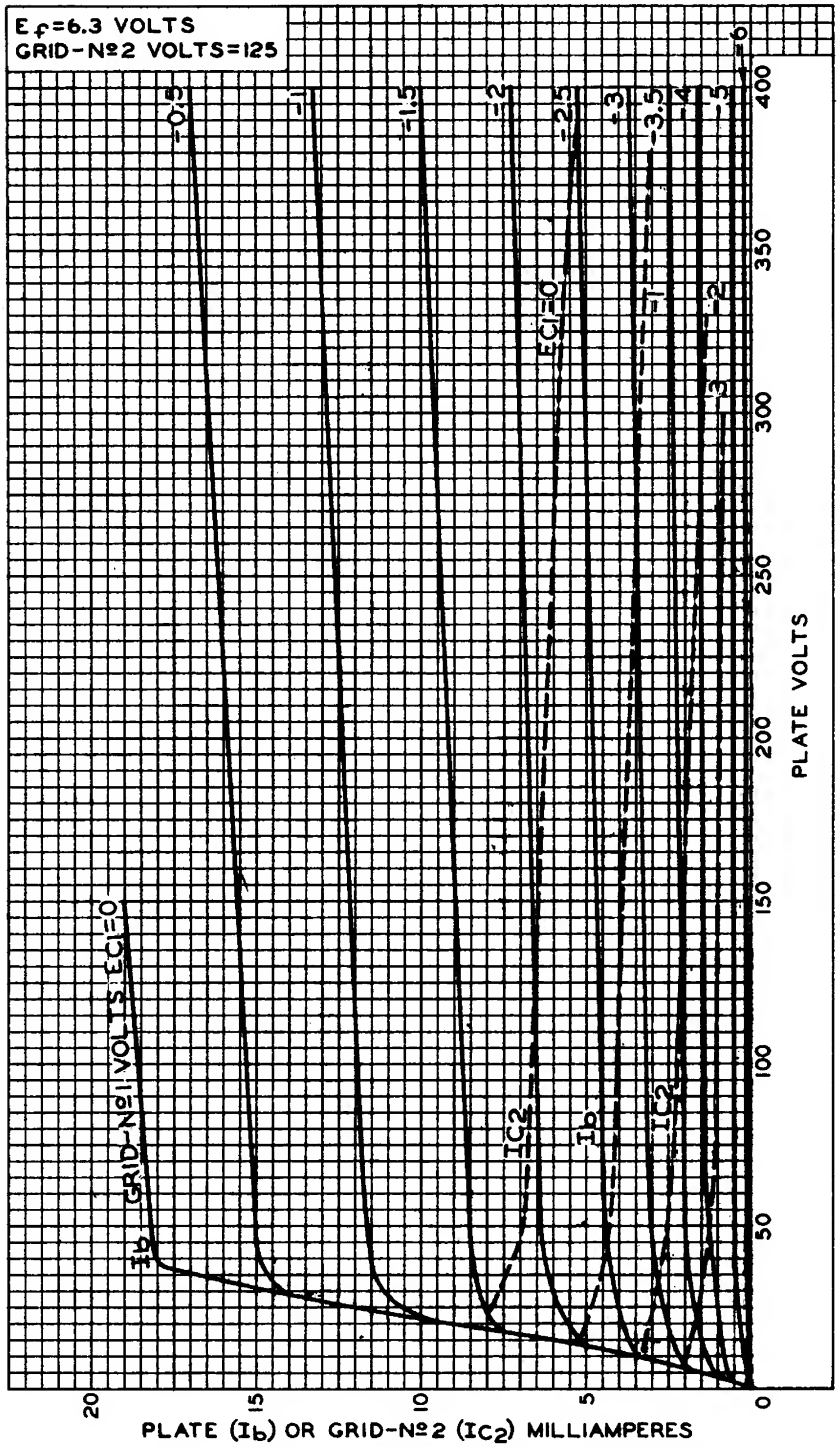



ELECTRON TUBE DIVISION
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

92CM-9882

# 6EA8

## AVERAGE CHARACTERISTICS
### PENTODE UNIT



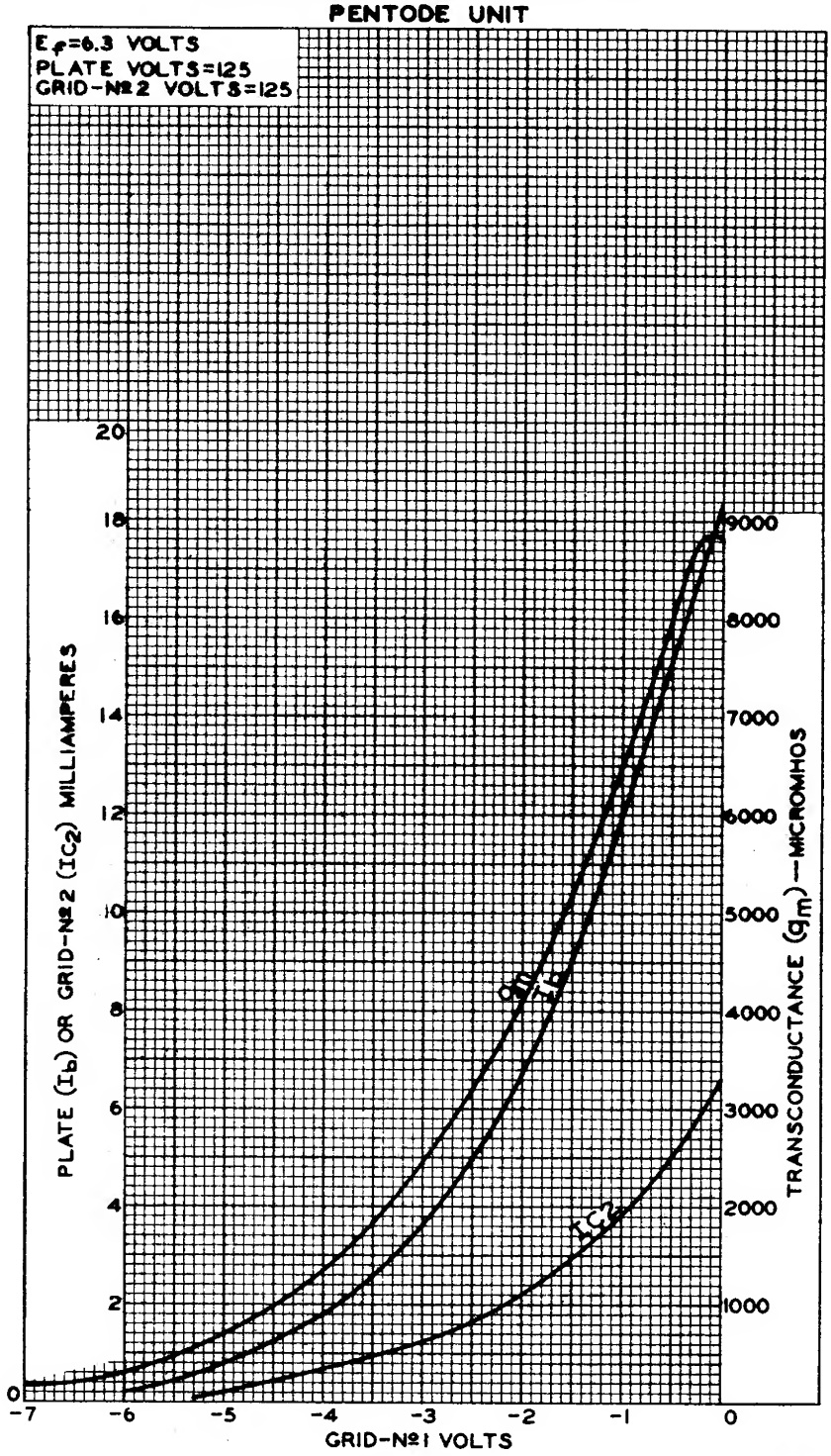

ELECTRON TUBE DIVISION
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY
92CM-9867

6EA8

# 6EA8

## AVERAGE CHARACTERISTICS

### PENTODE UNIT




ELECTRON TUBE DIVISION
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

92CM-9868